

I claim:

1. Electricity generating apparatus for a vehicle equipped with pedals, such as a bicycle, comprising a spindle and a tread portion relatively rotatable about the spindle, electricity generating means mounted upon the tread portion and transmission means between the spindle and generator such that for each revolution of the spindle relative to the tread portion the generator undergoes more than one revolution.

2. Apparatus as claimed in claim 1, wherein the rotor of the generator is rotatably mounted within the tread portion to rotate about an axis generally parallel with that of the spindle.

3. Apparatus as claimed in claim 2, wherein the generator comprises stator means generally parallel with the spindle and stationary relative to the tread portion.

4. Apparatus as claimed in claim 1, wherein the transmission means drives the rotor of the generator via gears at one end of the generator stator.

5. Apparatus as claimed in claim 1, wherein the transmission means comprises meshing gear wheels of unequal diameter one of which is stationary relative to the spindle and the other of which drives the rotor of the generator.

6. Apparatus as claimed in claims 1, wherein the transmission means comprises pulleys of unequal diameter one of which is stationary relative to the spindle and the other of which drives the rotor of the generator, said pulleys being connected by an endless belt.

7. Apparatus as claimed in claim 5 wherein the ratio of said gear wheels is of the order of 2:1.

8. Apparatus as claimed in claim 6 wherein the ratio of said pulleys is of the order of 2:1.

9. Apparatus as claimed in claim 7, wherein the gears are included in a gear box which has a 5:1 output ratio.

**SUBPATE**  
10. Apparatus as claimed in claim 9, wherein the generator and gear box are arranged in longitudinal alignment within the tread portion on one side of the spindle and a capacitor is arranged within the tread portion on the opposite side of the spindle, the capacitor being arranged to store electricity generated by the generator.

11. Electricity generating apparatus for a vehicle equipped with pedals, such as a bicycle, comprising a spindle, means at one end of the spindle for connection to a crank, a tread portion relatively rotatable about the spindle, electricity generating means mounted within the tread portion and laterally of the spindle, transmission means between the spindle and generator such that for each revolution of the spindle relative to the tread portion the generator undergoes more than one revolution and one or more arrays of LEDs disposed at the other end of the tread portion and arranged to be energised by electricity generated by the generator.

12. Apparatus as claimed in claim 11, wherein said LEDs are mounted within a lens at the other end of said pedal and wherein mirrored surfaces are provided within said lens arranged to project light from selected ones of said LEDs in the fore and aft direction.

13. Apparatus as claimed in claim 12, wherein said mirrored surfaces are mounted within the lens so as to be freely rotatable and each is eccentrically weighted so as to tend to retain the same attitude irrespective of the angular orientation of the pedal.

14. Apparatus as claimed in claim 11, wherein LEDs exposed to view at one side of the tread portion differ from LEDs exposed at the opposite side of the tread portion and wherein means is provided to encourage the selection of a particular orientation of the pedal when a foot is placed upon it.

15. Apparatus as claimed in claim 14, wherein the said difference is in colour.

<sup>20</sup>  
16. Apparatus as claimed in claim <sup>14</sup>14, wherein the said difference is in number.

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17. Apparatus as claimed in claim 14, wherein the said difference is in spatial distribution.

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18. Apparatus as claimed in claim 14, wherein the weight of the tread portion is different on opposite sides of the spindle such that it adopts a non-horizontal attitude before a foot is placed upon it.

19. Apparatus as claimed in claim 14 wherein the underside of the pedal has a projection.

20. Apparatus as claimed in claim 11, wherein the arrangement is such that the generator has an output of approximately 2 volts when relative rotation between the spindle and tread portion is 30 rpm.

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